

# Peanut butter, pyjamas, parmesan launched into space

June 6 2013, by Mariette Le Roux

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European Space Agency's Ariane 5 rocket blasts off from Kourou in French Guiana on June 5, 2013. A special delivery of peanut butter, pyjamas and parmesan cheese was blasted into the cosmos to bring some Earthly indulgences to the astronauts on board the International Space Station (ISS).

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The items were in a cargo capsule launched Wednesday on the [European Space Agency's Ariane 5 rocket](#) to bring creature comforts like family photos and sweet treats to the six-person crew, but also bare essentials like oxygen, food and drinking water.

Perhaps the most anticipated among the record 1,400 items launched on the Automated Transfer Vehicle (ATV) are the care packages put together for each of the astronauts with favourites they had requested and little surprises from home.

"It's quite small, but you can actually fit quite a lot in there," ATV cargo engineer Kerstin MacDonnell of the agency's ESTEC research centre told AFP of the bread bin-sized container each crew member would receive.

"Some birthday cards or drawings from their children, or if one of them has a craving for [chewing gum](#) or beef jerky or whatever kind of thing they like," she said.

"For the most part it's just comfort things that would help the morale—personal items and mementos from the family."

MacDonnell oversaw the loading of the ATV Albert Einstein, ESA's fourth and penultimate cargo freighter to the ISS, launched from Kourou in French Guiana.

The unmanned vessel is set to dock with the ISS on June 15 at an altitude of about 400 kilometres (250 miles) above the planet—at a speed of some 28,000 kilometres (18,000 miles) per hour.



Image provided by Arianespace on January 1, 2013 shows the ATV Albert Einstein at Europe's Spaceport in French Guiana. Among the ATV's record dry cargo load of 2.5 tonnes were day-to-day necessities like printer paper, tools, toothbrushes and socks.

At nearly 20.2 tonnes, ESA's fourth and penultimate cargo delivery to the ISS is the heaviest spacecraft ever lifted by an Ariane rocket.

It also marked the 55th consecutive successful launch by an Ariane 5, according to the Astrium space company which builds the lifeline craft.

Also among the ATV's record dry cargo load of 2.5 tonnes were day-to-day necessities like printer paper, tools, toothbrushes and socks, and even a special diet put together by French-born chef Alain Ducasse for an experiment to test the minimum energy requirements of a human being in orbit.

The total cargo weighs almost seven tonnes, and includes fuel for the ISS.

"We are looking forward to it because it carries experiments, a lot of personal stuff and all our food!" Italian astronaut Luca Parmitano, who arrived on the space station last week, said in a video shown at the launch control centre in Kourou.



The Ariane 5 blasts off from the ground at the French Guyana European Spaceport of Kourou on June 5, 2013. The rocket will bring creature comforts like family photos and sweet treats to the six-person crew on the ISS, but also bare essentials like oxygen, food and drinking water.

According to a cargo list, the crew will be dining for the next few months on everything from lasagna, beef stew, fajitas and broccoli gratin to waffles, dried fruit, scrambled eggs, strawberries and coffee ... even

cake icing in four different colours.

"They (the dieticians) try to make the food as tasty as possible and to have a variety," explained MacDonnell.

"A lot of astronauts say that after six months in orbit they start... craving stronger tastes, they get bored of what they're eating. It's a huge part of morale."

Nearly all the food items were carefully dry-frozen, dehydrated or thermo-treated before being painstakingly packaged and then loaded onto the unmanned space freighter with military precision.

Just a handful of the items, like jelly beans, strawberry yoghurt and chocolate bars, travel in their original state.

Because of the weightless conditions in which they live, the astronauts have to eat most of their meals from a can or aluminium envelope with a fork or spoon or risk their lunch flying all over the place.



Image provided by the European Space Agency on January 16, 2013 shows the ICC portion of ATV Albert Einstein being weighed at Kourou space center, French Guiana. The main cargo is loaded about five months before liftoff, which requires two days.

MacDonnell described the preparation of an ATV for launch, involving a crew of some 2,000 people, as "actually quite tricky".

Before loading can start, crews in full body suits spend almost a full day disinfecting the inside of the 10-metre (32-foot) long vehicle with hydrogen peroxide.

"There are a lot of effects to being in space that cause the astronauts to have a slightly compromised immune system," said the expert.

"So we try to make sure that when we bring up a vehicle it is as clean as possible at a microbial and fungal level so we don't bring up anything else that may endanger their health."

The main cargo is loaded about five months before liftoff, which requires two days—a fine-tuned manoeuvre that must ensure a perfectly-balanced centre of mass that won't throw the rocket or its precious cargo off track while also stabilising and containing the volatile pyrotechnics, pressurised gas, fuel and batteries on board.

The next phase is to load the late cargo—another two-day endeavour reserved for last-minute requests and perishables whose loading happens after the capsule is already perched vertically on top of the Ariane rocket.

The 80-centimetre (31-inch) wide loading hatch is right on the vessel's nose—more than 10 storeys high, through which a technician has to be lowered to load goods onto shelves that are now vertical.

For Albert Einstein, new hardware has made the job easier with a mechanical arm that can carry heavier packages and a telescopic platform that allows easier access to the shelves, said MacDonnell.

Total late [cargo](#) for the ATV-4 was more than ever before—at over 600 kilogrammes (1,300 pounds) it beat the previous record by over 200 kg.

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